IN THE CLAIMS

Claim 1 (previously presented). Method for the membrane electrophoresis of substances which are dissolved or dispersed in electrolyte-containing solution using an at least quadrupartite separation chamber (7) which comprises at least one pair of diluate spaces (16) and concentrate spaces (17), a cathode space (18) and an anode space (21) having electrodes as anode (19) and cathode (20), the diluate spaces and concentrate spaces of each pair being separated from each other by ultrafiltration or microfiltration membranes (15); the cathode space and anode space being separated from the pairs of dilute and concentrate spaces by restriction membranes and each pair of dilute and concentrate spaces, if there be more than one, being separated from the others by restriction membranes, said separation chamber also comprising an electrode rinsing solution being circulated through the electrode spaces (18, 21), and diluate being continuously conducted through the diluate space (16), and, respectively, a concentrate being continuously conducted through the concentrate space (17), wherein at least one substance which is dissolved or dispersed in the diluate is transferred electrophoretically, by means of an electrical field which is applied between the anode (19) and the cathode (20), from the diluate space (16) to the concentrate space (17), with a pressure difference of at least 3 kPa being maintained between the diluate space (16) and the concentrate space (17) of each pair of diluate spaces and concentrate spaces.

Claim 2 (original). Method according to Claim 1, wherein the pressure difference maintained between the diluate space (16) and the concentrate space (17) is a pressure difference sufficient to essentially prevent any liquid flow through the separation membrane (15) which separates the concentrate space (17) and the diluate space (16) from each other.

Clam 3 (previously presented). Method according to Claim 1, wherein the separation chamber (7) comprises a separation module (7a) which is comprised

of several pairs of diluate spaces (16a, 16b, ...) and concentrate spaces (17a, 17b, ...) which are operated in parallel and/or in series.

Claim 4 (original). Method according to Claim 1, wherein the diluate liquid, the concentrate liquid and the electrode rinsing solution, or any one of these solutions, is/are temperature-controlled.

Claim 5 (original). Method according to Claim 4, wherein at least two of said diluate liquid, concentrate liquid and electrode rinsing solution are temperature-controlled, and each is temperature-controlled independently of the other(s).

Claim 6 (original). Method according to Claim 4, wherein said temperature-control comprises cooling.

Claim 7 (previously presented). Method according to Claim 1, wherein the ultrafiltration or microfiltration membranes have a pore size of from 1 to 1,000 nm.

Claim 8 (previously presented). Method according to Claim 7, wherein the ultrafiltration or microfiltration membranes are formed of a material selected from the group consisting of cellulose ester, polyacrylonitrile, polyamide, polyether, polyethersulphone, polypropylene, polysulphone, polyvinyl alcohol, polyvinylidene fluoride, aluminum oxide, silicon oxide, titanium oxide, zirconium oxide, and ceramics comprised of one or more of the abovementioned oxides.

Claim 9 (original). Method according to Claim 1, wherein electrode rinsing solution is passed through the anode space (21) and the cathode space (18) independently of each other.

Claim 10 (original). Method according to Claim 1, wherein the diluate solution, the concentrate solution and the electrode rinsing solution comprise electrolytes

which are combinations of weak acids and weak bases, weak acids and strong bases or strong acids and weak bases.

Claim 11 (original). Method according to Claim 10, wherein the electrolytes comprise one or more compounds selected from the group consisting of boric acid, phosphoric acid, N-2-(acetamido)-2-aminoethanesulphonic acid, N-2-(acetamido)iminodiacetic acid, alanine, 2-amino-2-methyl-1,3-propanediol, ammonia, N,N-bis(2-hydroxyethyl)-2-aminoethanesulphonic acid, N,N-bis(2-hydroxyethyl)glycine, 2,2-bis(hydroxyethyl)iminotris(hydroxymethyl)methane, 2-cyclohexylamino(ethanesulphonic acid), acetic acid, glycine, glycylglycine, 2-[4-(2-hydroxyethyl)-1-piperazinyl]ethanesulphonic acid, 3-[4-(2-hydroxyethyl)-1-piperazinyl]propanesulphonic acid, histidine, imidazole, lactic acid, 2-morpholinoethanesulphonic acid, 2-morpholinopropanesulphonic acid, piperazine-1,4-bis(2-ethanesulphonic acid), N-[tris(hydroxymethyl)methyl]-2-aminoethanesulphonic acid, N-[tris(hydroxymethyl)methyl]glycine, triethanolamine, tris(hydroxymethyl)aminomethane and citric acid.

Claim 12 (previously presented). Method according to Claim 1, wherein the current density, based on the area of the individual ultrafiltration or microfiltration membranes, is from 10 to 1,000 A/m^2.

Claim 13 (original). Method according to Claim 12, wherein said current density is from 10 to 500 A/m^2

Claim 14 (original). Method according to Claim 1, wherein the conductivity of the diluate solution is from 0.1 mS/cm to 40 mS/cm.

Claim 15 (original). Method according to Claim 14, wherein said conductivity is from 0.1 to 10 mS/cm.

Claim 16 (original). Method according to Claim 1, wherein the conductivity of the diluate solution is lowered during the separation.

Claim 17 (original) . Method according to Claim 1, wherein, after the separation, the diluate solution is concentrated by microfiltration, ultrafiltration, nanofiltration or reverse osmosis, and returned to the diluate space (16).

Claim 18 (original). Method according to Claim 1, wherein said substance is selected from the group consisting of proteins, peptides, DNA, RNA, oligo-nucleotides, oligosaccharides, polysaccharides, viruses, virus constituents, cells, cell constituents, enantiomers, diastereomers and combinations thereof.

Claim 19 **(currently amended)**. Appliance for membrane electrophoresis, comprising an at least quadrupartite separation chamber (7) having at least one pair of diluate spaces (16) and concentrate spaces (17), a cathode space (18) and an anode space (21) having electrodes as anode (19) and cathode (20), with the diluate space and concentrate of each pair being separated from each other by ultrafiltration or microfiltration membranes (15); the cathode space and anode space being separated from the pairs of dilute and concentrate spaces by restriction membranes and each pair of dilute and concentrate spaces, if there be more than one, being separated from the others by restriction membranes, said appliance also comprising feed lines (22) and discharge lines (23) for diluate, feed lines (24) and discharge lines (25) for concentrate, optionally feed lines (26) and discharge lines (27) for an electrode washing solution, and also a pressure regulation system (8; 10) or (9; 11) for generating a pressure difference of at least 3 kPa between the diluate spaces (16) and the concentrate spaces (17)**, said restriction membranes having substantially lower cutoff points than said ultrafiltration or microfiltration membranes**.

Claim 20 (previously presented). Appliance according to Claim 19, comprising a plurality of pairs of dilute and concentration spaces.

Claim 21 (previously presented). Appliance according to Claim 20, wherein the pairs of diluate spaces and concentrate spaces are connected to each other in parallel and/or in series, and are arranged alternately between the anode space (21) and the cathode space (18).

Claim 22 (original). Appliance according to Claim 19, wherein feed lines (22) and discharge lines (23) for the diluate are arranged in a diluate circuit (1; 4; 22; 23), feed lines (24) and discharge lines (25) for the concentrate are arranged in a concentrate circuit (2; 5; 24; 25) and, optionally, feed lines (26) and discharge lines (27) for the electrode rinsing solution are arranged in an electrode rinsing circuit (3; 6; 26; 27).

Claim 23 (original). Appliance according to Claim 22 comprising heat exchangers in one or more of said circuits.

Claim 24 (original). Appliance according to Claim 19, wherein said membranes have a pore size of from 1 to 1,000 nm.

Claim 25 (previously presented). Appliance according to Claim 19, wherein the membranes are formed of a material selected from the group consisting of cellulose ester, polyacrylonitrile, polyamide, polyether, polyethersulphone, polypropylene, polysulphone, polyvinyl alcohol, polyvinylidene fluoride, aluminum oxide, silicon oxide, titanium oxide, zirconium oxide and ceramics comprised of the above mentioned oxides.

Claim 26 (original). Appliance according to Claim 22, wherein the electrode rinsing circuit comprises a separate anode rinsing circuit and cathode rinsing circuit.